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ABSTRACT

The ways in which a physical education program for elementary school children of all ability levels may be developed are examined. Central to this subject is knowledgeable and systematic observation of each child's physical movements on the part of the teacher. The physical educator must develop skills of the mechanics of human movement to identify those students who need a program of remedial motor activity. Emphasis is placed on treating all children equally, modifying teaching styles to meet the needs of all students, and identifying those who require specialized physical education. An example of a child's deficient throwing pattern is presented, and an example of how an instruction plan could be developed for improving the child's performance is outlined. (JD)

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PERSONALIZING MOTOR DEVELOPMENT FOR THE ELEMENTARY CHILD

by

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INDIVIDUALIZING INSTRUCTION FOR THE YOUNG CHILD

Bruce A. McClenaghan

During the past several years there has been an increased emphasis placed upon preparing physical educators to teach children of all ability levels. Some school districts are now attempting to conduct specialized programs of physical activities to remediate motor deficiencies. This effort has been made in an attempt to provide that all children be provided with experiences to aid them in achieving their motor potential.

With the implementation of new state and federal legislation and the restricted budgets of school districts making it difficult to hire specialists, all physical educators, regular classroom teachers, and special educators must be prepared to teach children of all ability levels. The physical educator will have to develop and provide perscriptive activities for children of varying physical abilities. This will require that they be prepared to:

- Analyze human movements
- Identify problems within the psychomotor domain
- Develop appropriate instructional strategies to aid in remediating a motor deficiency

In every class there are children who have difficulty performing efficient movement skills and often experience repeated failure in physical education. Whether the lack of motor ability is neurologically based, related to a physical impairment, or caused by a deprivation of appropriate movement experiences during early childhood, physical educators must attempt to meet their needs. The all too familiar occurance related in George Leonard's book The Ultimate Athlete must not be allowed to continue if we as a profession are to survive the tight budget restrictions of todays economy.

Standing in front of the boys and girls was a taut-muscled young man with gym shoes, gym pants, a white T-shirt, a crew cut, a whistle, and a clipboard. Next to the young man, like a guillotine in the sunlight, was a chinning bar. I stopped to observe the scene.

The man looked at his clipboard. "Babcock," he called.

There was a stir among the boys and girls. One of them rose and made his way to the chinning bar: Babcock, the classic fat boy.

Shoulders slumped, he stood beneath the bar. "I can't," he said.

"You can try," the man with the clipboard said.

Babcock reached up with both hands, touched the bar limply--just that--and walked away, his eyes downcast, as all the boys and girls watches, seeming to share his shame...

But Babcock was not to let me off easily. The vignette kept replaying itself in my mind. I was fascinated by the way the fat boy walked to the chinning bar, waddling slightly but moving fast as if eager to have it done with; his condemned stance beneath the bar; the minimal, symbolic touch of his hands on the metal; his utter resignation as he walked away, his head bobbing from side to side. Again and again Babcock rose, walked to the bar, stood there, touched the bar, walked off. The scene took on the quality of Greek drama. The man with the clipboard became the stern-visaged god who devises tests for us then sends us on without mercy to our respective fates. The boys and girls took the part of the chorus, by their silence condemning the unworthy, and yet, by that same silence, expressing their own uneasiness and shame...[1]

Acquisition of Movement Abilities

In order to successfully individualize instruction for elementary school children it is vital that the physical educator be familar with how they learn to move.

From the moment of birth, motor development evolves in a progressive manner. The movements of the newborn are largely reflexive and involuntary in nature. As development progresses and the child's neurological system matures, many of these reflexive movements are suppressed or inhibited as the infant gains progressive voluntary control of his musculature. Initial

[1]Taken from Leonard George, The Ultimate Athlete, (New York: Avon Publishing) 1975

voluntary movements are ill-defined and highly uncoordinated. They appear random and without purpose, but represent a crucial information-gathering process. With time, the growing child begins to integrate and refine these movement experiences into an ever increasing repretoire of abilities. These movements gradually become increasingly complex as the young child is able to combine the movements of individual parts into a coordinated movement pattern utilizing the total body.

It is important that all children be given sufficient opportunities for practice so these patterns become more refined and can be successfully integrated into sports related activities. As a child reaches early adolescence, he begins to utilize these patterns in movement skills that are related to specific games, sports, and activities.

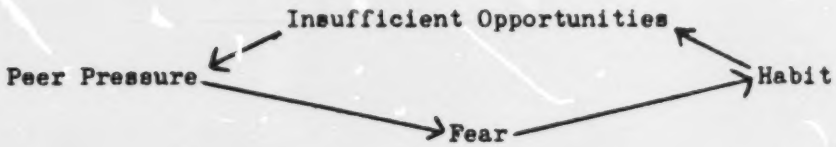
The early childhood period (2-7 years) appears to be the critical period for developing efficient movement patterns. In the past, children were often left on their own to refine these fundamental movements. The child's normal play activities were counted on to provide the experiences necessary for refining these patterns. Although the play experiences of some children are sufficiently varied to refine these patterns, it would be incorrect to conclude that all children would develop mature patterns without some form of instruction.

If a child fails to develop efficient movement patterns during the critical, early childhood period, it becomes increasingly difficult to acquire the mature pattern with each additional year. This is primarily because:

- As children grow older, they do not have the numerous opportunities to be involved in a valuable movement of this type
- Negative pressure by peers in play situations because of inefficient motor skills

. Fear of being unsuccessful performing skills, thereby limiting practice

. Incorrect motor patterns become a habit that are difficult to break



This is not to say, however, that some children will never achieve the mature level of functioning, but only that with each advancing year it becomes increasingly difficult to develop efficient movement. It is vital, therefore, that children be screened at an early age, and remedial activities provided, if necessary.

An example of an unskilled movement pattern commonly exhibited beyond the early childhood period is throwing or catching a ball. Many individuals, particularly females, who often have limited experiences during early childhood with balls, have difficulty throwing or catching utilizing a mature pattern. They tend to utilize an awkward arm motion and often exhibit an avoidance reaction with the head when attempting to catch a tossed ball. Lack of opportunity, negative peer pressure, and fear may be cited as the primary contributing factors to this situation. The weaknesses in the throwing and catching patterns of many females will probably become less evident in coming years. This will be due primarily to the increasing numbers of young girls participating in physical activities and the newly found positive peer group acceptance of the skilled female performer.

The fundamental movement patterns developed during the early childhood period form the motor basis for which later sport skills and more complex skills are developed.

The degree to which the child develops these fundamental abilities during early childhood often effects the ease at which he is able to achieve acceptable levels of performance in more advanced motor skills during later adolescence and adulthood. Many of these fundamental movement patterns are integrated with more complex skills and are necessary for participation in sport, dance, and recreational activities. Children who fail to develop mature and efficient movement patterns may find it difficult to successfully participate in later more complex physical skills. This deficiency may have far reaching implications to the child's ability to successfully take part with his peers in a wide variety of unstructured and structured play activities. Adults who have not reached the mature level in a variety of fundamental movement patterns may also have difficulty successfully participating in recreational and/or competitive activities that require coordination and physical skill. The extent to which these patterns develop during early childhood appear to be primarily dependent upon three factors:

(1) the child's developmental potential

(2) the rate of maturation, and

(3) the quality and variety of movement experiences offered.

Within the period of early childhood, children acquire the ability to perform fundamental movement patterns by gradually integrating a greater and more complex number of individual body actions into a coordinated and refined movement pattern. The mature throwing pattern, for example, requires the performer to synchronize the body actions of the arm and hand with that of the trunk, foot, and leg. Early attempts at the throwing pattern involve

only an inefficient arm action centered at the elbow. With experience, the throw becomes a highly complex movement coordinating a number of body actions into an efficient and accurate throwing motion.

Once children develop the psychomotor skills necessary for successful participation, they should be provided with a program designed to incorporate these movements into higher level of sport-recreational skills. It is difficult to assign an exact age when children will be ready for this change in program emphasis. Some children will experience delays in acquiring the basic skills necessary to participate in more advanced movements. It is necessary, however, that these early skills be refined before the child is taught more complex movements. The child who experiences difficulty with motor skills, that is pushed into advanced activities, will often experience repeated failure and associate negative feelings with movement.

Observation of Fundamental Movements

The physical educator attempting to personalize physical activities must be familiar with the techniques for evaluating and assessing psychomotor ability. Numerous tests, checklists, and techniques are available to effectively evaluate children's performance. The physical educator must evaluate quality of a movement, as well as, the quantity of a performance. Many current instruments emphasize quantity aspects of movement, thereby limiting their ability to evaluate the quality on a child's movements.

For years, physical educators have been taught to utilize assessment techniques designed to measure only the quantitative aspects of an individual's physical fitness, motor ability, and skill proficiency. Many physical educators who have had limited experience working with children experiencing motor deficiencies will be overly concerned with the student's ability to perform a motor skill at a predetermined level. Being able to run 50 yards, in eight

seconds. Criterion, such as, how fast can you run, and how far can you jump, are of limited value when attempting to determine how a developmentally disabled person performs a motor skill. In addition, such criterion-based-assessment techniques are often of limited value in determining where the child is deficient in his movement.

In attempting to evaluate the psychomotor ability of your children, it is recommended that the physical educator utilize both formal and informal assessment techniques. The initial step, in the evaluation process, is to utilize systematic observation to screen children who need further assessment to isolate specific motor problems.

Few professional preparation programs prepare physical educators to systematically observe and evaluate human movement efficiently. All too often, we look at a child performing a motor skill and know something is wrong, but are unable to identify the exact problem. Physical educators teaching young children must develop their powers of observation. Systematic observation assessment has proven to be a reliable tool for rapidly screening children who appear to have difficulty with physical skills. The following suggestions are provided for those individuals attempting to accurately observe children's performance of fundamental movement patterns.

1. Become totally familiar with the movement you are attempting to evaluate.

2. Each movement can be subdivided in its (phases preparation, action, and follow-through) and each can be evaluated separately.

3. Attempt to look at important body actions, such as, the action of the head, trunk, arms, legs, etc.

4. Eliminate any predetermined biases that you may have regarding the student's ability.

5. Do not draw your conclusions on a limited number of observations. Observe the child in formal and informal settings.

6. Observe duly "gross deviations" the movement skill, but leave room for individual differences.

7. Observation is an informal tool; utilize results within this limitation.

Developing efficient and accurate observation skills requires study into the mechanics of human movement and continual practice. This skill, once perfected, will aid the physical educator to identify those students who need a program of remedial motor activity.

In order to obtain reliable results from observation, it must be performed utilizing a systematic approach. Observation of basic movement ability may be conducted in a formal or informal manner. Children may be observed informally during a regular class period performing the movement patterns or they may be observed formally on a one-to-one basis. However the information is collected, it is important to consider the following points:

1. Children who are being observed must perform the movement pattern to the best of their ability. This often can be accomplished by verbal instructions, such as, "as far as you can," "as hard as you can," etc. Care must be taken, however, not to expect them to exceed their ability, because they may revert to a less mature level of functioning.

2. Children should not be aware they are being observed. The children must perform each pattern several times; therefore, it is important they enjoy participating. Verbal praise and physical contact are important considerations in getting the children to perform.

3. The child should, when possible, be given only a verbal description of the pattern to be performed. Manually put the child through the movement only if a verbal description fails several times.

4. If a child does not perform the correct pattern, or the observer misses the action, the pattern may be repeated by the child.

Individualizing Instruction

When teaching activities to a class with several children experiencing difficulty with movement, the physical educator may often experience frustration and failure. The following teaching suggestions may aid the instructor who is having difficulty. These ideas are not unique, but reinforce techniques that have proved successful in the past:

1. When teaching a class with a wide range of physical abilities, attempt to treat all children equally. Care must be taken not to place more value on some students participation in your class to others. All students have a contribution to make, and it is important to look at strengths rather than weaknesses. Do not allow yourself to reinforce only good performers and athletes. This can be accomplished by:

   a. Establishing appropriate expectations for each child in your class.

   b. Being flexible to allow for individual differences.

   c. Rotate the leadership roles to children of all ability levels.

   d. Do not allow predetermined biases to affect how you treat an individual.

   e. Reinforce all children on accomplishments, challenge each to achieve higher skill levels.

2. Modify teaching styles to better meet the needs of all students in your class. Most instructors have been taught utilizing a command approach, and often teach in this manner. Physical educators should explore various teaching styles that may be successful in instructing students with a range of abilities. Teachers can modify instruction by:

   a. Individualizing instruction whenever possible while attempting to identify specific weaknesses and providing activities designed to remediate the deficiency.

   b. Allowing students to establish their own levels of success without the teacher predetermining the level of acceptability.

   c. Allowing students to progress at their own rate by utilizing a task approach where activities are sequenced in a success oriented manner.

   d. Utilizing carefully selected student aids to help students perform physical skills.

e. Providing numerous orientated activities for children of all ability levels.

3. Re-evaluate and Restructure the manner in which physical education is taught at your school. Numerous new and exciting techniques have been developed for teaching physical education at the secondary level. The techniques that can be utilized to aid integrating the exceptional students into physical education include:

a. Utilizing a team teaching approach where classes can be sub-divided into ability levels for a more individualized institution.

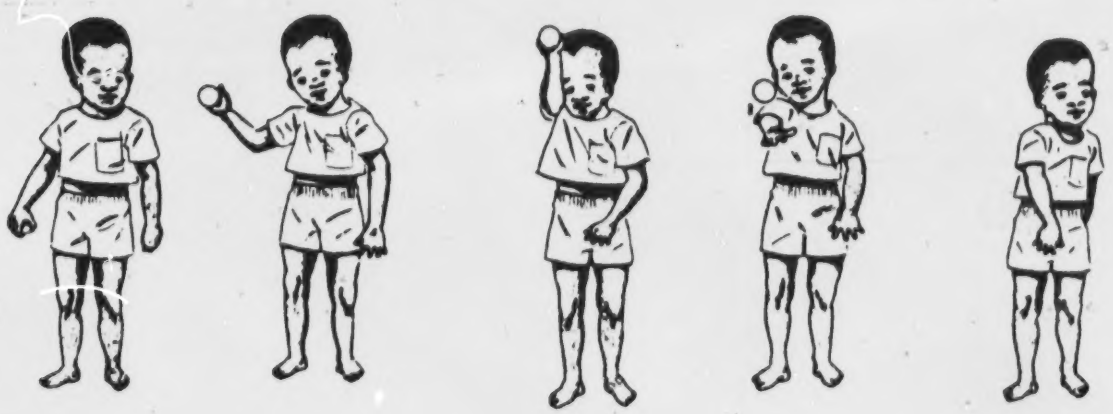
b. Providing elective physical education where students can select those activities that they can safely and successfully participate.

c. Identifying those students who require a specialized physical education and develop and implement such a program.

The physical educator attempting to improve the quality of instruction for all students will find numerous additional techniques that are successful personalizing instruction. There should be a constant effort to evaluate current teaching techniques and modify them when necessary for successful participation by all students.

Individualized instruction is a concept that physical educators usually envision as impossible. This terminology, however, is often not defined properly. It does not mean that a separate lesson must be designed for each child, or that each child must be taught individually. It does mean that the instructor be able to adapt a general lesson to each child's limitations. For example, a lesson on the standard long jump need not require that all children jump a set or predetermined distance, but rather, let the children set their own standard of successful performance. The instructor should be able to observe children in the class experiencing difficulty, and be ready to incorporate remedial activities wherever needed.

The ability to individualize instruction is not a skill that teachers leave college with, but rather, one that is developed after a great deal of practice and work. The good teacher individualizes instruction everyday without worrying about what it is called. Let's see if we can individualize instruction for a member of your class that is depicted below. You have given him a ball and requested that he throw the ball as far as he can. The movement that results is drawn below. Look carefully at this movement, and attempt to identify the areas of deficiency. See if your responses are similar to the answers on the next page.



Identify deficiencies

(Place what you feel is incorrect with this movement here. Check your answers on next page)

(Taken from McClenaghan & Gallahue, Fundamental Movement: A Developmental And Remedial Approach, 1978, p 91.)

If you have a good awareness of the mechanics of the overhand throwing pattern, you should have identified the following deficiencies in this pattern:

1. The arm action is inefficient, originating from only the elbow.
2. There is little trunk rotation during the throwing motion.
3. The feet remain stationary with no forward shift in body weight.

If you have had a problem observing these incomplete body actions, go back and attempt to do it again. If you did observe these weaknesses, the next step is to design remedial activities that will reinforce the correct throwing pattern.

The following is an example of how an instruction plan that could be developed for this child's deficient throwing pattern. It is not always necessary to formally write an instructional plan for each child experiencing motor problems. For children with minor deficiencies it is often sufficient to just be familar with each child's weaknesses and adapt activities as you teach.

INSTRUCTIONAL PLAN

Name of Student:_____ Date of entry into program:_____

Date of Birth:_____ Projected ending date:_____

Signature of Individual Completing form_____ Position_____ Discipline:_____

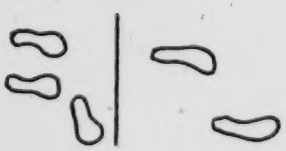
Program Goals	Instructional Objectives	Strategies	Materials	Date Started	Date Ended	Mastery of Objectives
To provide child with appropriately planned physical activies so he may achieve the maximum level of his motor potential	1. To develop a mature* arm action during the overhand throwing pattern 2. To develop a mature trunk rotation during the overhand throwing pattern 3. To develop a mature leg and foot action of the overhand throwing pattern	Target throw Distance throw From the stretch Step throw Step and throw Rock and throw Additional activities: Pitcher Rapid fire	Target ball Ball Ball Rope-ball Ball Tape-ball Tape-ball Ball	5/6 5/7 5/2	5/8 5/8 5/9	Yes Yes No: Need additional work on shifting weight to opposite foot
	* As Defined In Fundamental Movement: A Developmental And Remedial Approach (W. B. Saunders, Co.)	** Refer to preceeding pages for further description				

Once strategies have been identified to enhance specific body actions, they should be thoroughly developed. The following movement experiences are designed to improve the body actions of this throwing pattern.

MOVEMENT EXPERIENCES TO ENHANCE THROWING*

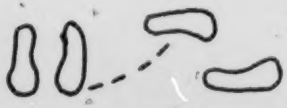
Throwing

The following remedial movement experiences are designed to enhance specific body actions of the throwing pattern. Children should be given the opportunity to develop mature arm, trunk, and leg-foot actions.

POINTS TO EMPHASIZE	MOVEMENT EXPERIENCES	ADAPTATIONS	EQUIPMENT
	Distance Throw		
Step, shift in weight	Have each child attempt to throw a small ball as far as he or she can. Mark the child's farthest throw and attempt to break their own record. Stress the form of the throw, as well as, the power.	1. Have children attempt to throw the ball while keeping their feet stationary. 2. Have children attempt to toss the ball with the non-throwing hand. 3. Have children attempt to throw the ball from a run.	Small balls Cones
	Step and Throw		
Step, shift in weight Trunk action	Have children practice stepping while throwing a ball against a wall. Throwers should stand behind a line and step forward while throwing. Children should complete the throwing action in front of the line. 	1. Have the children vary the throwing pattern: overhand, underhand, sidearm, two-hand chest. 2. Mark a target on the wall and have children attempt to hit it. Keep score. 3. Increase the distance from the wall.	Ball

*From: McClenaghan, Bruce and Gallahue, David L. Fundamental Movement: Developmental and Remedial Approach. Philadelphia: W. B. Saunders, 1978.

POINTS TO EMPHASIZE	MOVEMENT EXPERIENCES	ADAPTATIONS	EQUIPMENT
	Rapid Fire		
Being able to utilize the correct pattern when having to rapidly perform movement. Shift in weight Opposite step	Children should stand on a line and alternatingly toss the ball to the instructor who is standing directly in front of them. Once the children catch the ball, they should attempt to throw the ball back without delay utilizing a mature throwing pattern. X X X X X (X)	1. Increase the distance between the instructor and the children. 2. Utilize various size and shaped balls, bean bags, etc. 3. Have children vary the type of throw that they utilize to return the ball: underhand, overhand, bounce, chest, etc. 4. The instructor should vary the delivery, or throw, to the children and the throwing pattern.	
	Pitcher		
Complete pattern: Step, shift in weight, hip snap, elbow lead, complete follow-through	Mark on a wall a square box approximately the size of a strike zone. Cut a plate out of poster board and place it on the floor. Children should pitch from a line that has been marked on the floor. Have children attempt to strike out batter instead of walking him. Keep score of how many runs are walked across for each three outs. 	1. Increase the distance from the plate to the pitcher's mound 2. Utilize a catcher and have him/her call balls and strikes. 3. Pitch to a batter with a plastic ball and bat, play a modified game of baseball.	

POINTS TO EMPHASIZE	MOVEMENT EXPERIENCES	ADAPTATIONS	EQUIPMENT
	Target Throw		
Elbow leads arm action Accurate release of object Complete follow-through	Design and construct targets of various sizes and shapes. Have children stand behind a line and attempt to throw balls and bean bags of various sizes and shapes at target. 	1. Have children move further from the target, at an angle, and/or decrease the size of the target. 2. Suspend a target and have children attempt to toss ball through swinging target.	
	From the Stretch		
Foot action of non-dominant foot Trunk rotation Overhand pattern	Have the children stand with their non-throwing side toward the target or wall. The ball should be held in front of the body with the arms held relaxed. When ready, the child should step toward the target with the non-dominant foot as the throwing arm prepares for the throw. The elbow should lead the throwing action and there should be a complete follow-through. It may be helpful to lay out the following foot pattern to aid children experiencing difficulty. 	1. Increase the distance from the thrower and the target, making the children throw harder. 2. Decrease the size of the target and/or vary the size of the ball. 3. Eliminate the foot pattern and have the children throw without its aid. 4. Have children make believe they are pitching to a batter. Can they throw three strikes before they walk the imaginary batter?	

Summary

No longer can physical educators only be concerned with children with good motor skills, but must be able to adapt their lessons to less skilled performers. Developing a physical education program to meet the needs of all children is difficult. There are no easy answers to the frustrations experienced when implementing such a program. It is, however, an extremely rewarding experience when a program is successful and all students are developing positive attitudes toward physical activity.